Recording calibration memory

If you always use the same sort of tape – brand and type – you do not need to record calibrate every time you insert a tape for recording. You can utilize the built-in memory function with the aid of [STORE] as follows:

When the tape has been calibrated with [REC OPEN] and [REC CAL], press [STORE]. The display panel switches off briefly and then on again. You can store a recording calibration for each of the four tape types separately – ferric, ferrochrom, chrome and metal. You can also calibrate the Beocord 9000 to record other brands and types of tape; just don't use the [STORE] button.

If you try to store the recording calibration for a given tape whose characteristics are too far removed from those of the general tape type in question, the NO STORE indicator will light up, signifying that the information has not been stored. This does not mean you cannot record on this tape – the recording calibration is carried out and ensures optimum performance.

TAPE END

When recording it is a help if you can measure accurately how much playing time is left on the tape. For instance, if the tape already contains a number of recordings and you can fit in one more. The normal time calibration measures from the beginning of the tape, without references to the total playing time on the tape.

The TAPE END function supplements normal time calibration by measuring the playing time from a random point on the tape to the end of the tape.

Insert the cassette and press [GO].

When the TIME CAL indicator lights continuously you can wind to the place where you want to start your recording.

Press [REC OPEN] and [TAPE END].

When the tape is stopped and TAPE END lights continuously you can start recording in the normal way.

The display alternately shows the playing time from the beginning of the tape and the tape time remaining; e.g. 25·30 and ·04·30. The flashing dot in the front of the first digit indicates that this is the playing time remaining, which counts downwards.

For the last minute, only the count-down to the end of the tape is displayed.

TAPE END without normal time calibration

You can also utilize the TAPE END function without activating [GO].

Wind to the place where you want to start your recording and press [REC OPEN] and [TAPE END].

Once TAPE END lights continuously, the playing time remaining is shown when the dot flashes in front of the first digit. The other figure shows the tape time that has elapsed since the start of the recording.

TAPE END warning

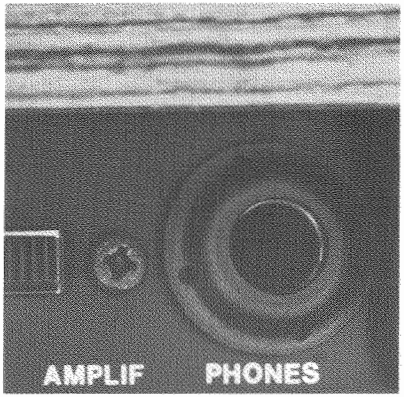
When recording you get a reminder that the tape is running out, even if you have not used [TAPE END].

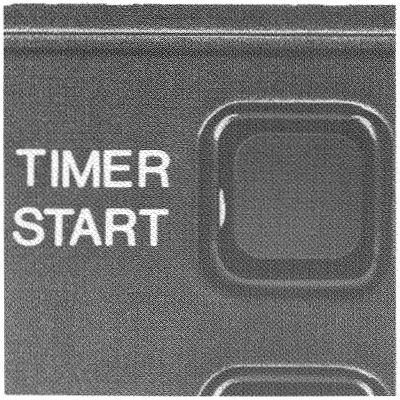
About 5 minutes before the end of the tape the TAPE END indicator starts flashing.

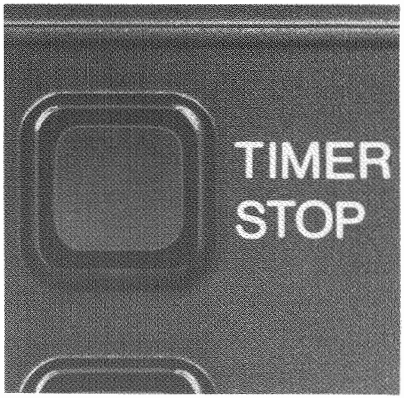
Automatic TAPE END calibration

If you play or wind to the end of a tape with normal time calibration, the TAPE end indicator lights up.

This means you can record on this tape with the TAPE END function cut in without pressing the [TAPE END] button first.







Simultaneous time/recording calibration
Press [REC OPEN], then keep [REC CAL] pressed down for about 2 seconds, until both the REC CAL and TIME CAL indicators start flashing. When both indicators light continuously and the tape is stopped, you can start recording.

Simultaneous time/TAPE END/ recording calibration
Press [REC OPEN] and [REC CAL], and wait about 10 seconds until tape winding has stopped.
Keep [TAPE END] pressed down for about 2 seconds, until both the TAPE END and TIME CAL indicators start flashing.
When both indicators light continuously the Beocord 9000 is ready to record.

Headphones
Stereo headphones can be connected to the PHONES socket on the front of the tape recorder. Volume is adjusted with the separate PHONES slider control under the metal cover.
The headphones can be used both for playback and for monitoring during recording.

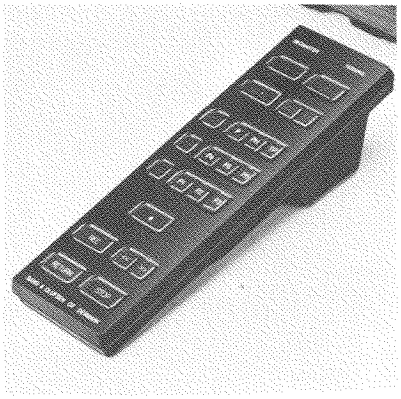
TIMER PROGRAMMING
Programming for tape playback
Suppose you wish to listen to a tape at 12.30.
Wind the tape to the recording you wish to hear.
Note: The REC OPEN indicator must **not** be lit. If it is, press [REC OPEN].
Press [TIMER START] [1] [2] [3] [0] [GO].
The programmed time e.g. 12.30 appears on the display, which then goes back to showing playing time.
Press [STAND BY].

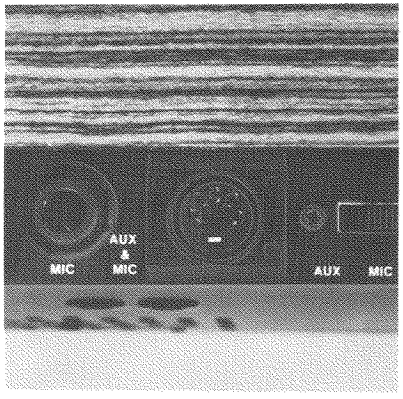
Programming for unattended recording
Suppose you wish to record a radio broadcast at 13.00. Wind the tape and check that the REC OPEN indicator is lit: press [REC OPEN] if necessary.
Switch the radio receiver on to the programme you want and adjust RECORD slider controls to the level you use for recording radio broadcasts.
Press [TIMER START] [1] [3] [0] [0] [GO].
The programmed time appears on the display, which then goes back to showing playing time.
Press [STAND BY].

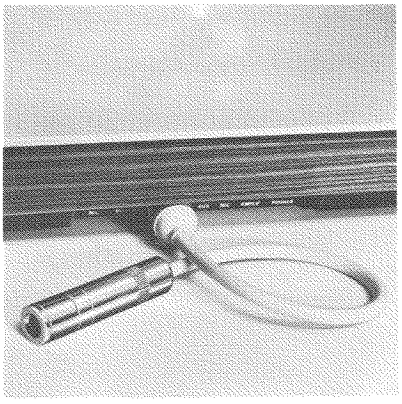
Programming for stop
Suppose you wish to set the Beocord 9000 on stand by at 14.00, regardless of whether it is in the process of recording or playing back at that time.
Press [TIMER STOP] [1] [4] [0] [0] [GO] and [STAND BY].

Check
Two dots are shown between the second and third digits on the display to indicate that the Beocord 9000 has been timer programmed. Once the programme has been carried out, the bottom dot disappears.
You can, at any time, check what the Beocord 9000 is programmed for:
Press [TIMER START]. The first two digits flash.
Press [TIMER STOP]. The last two digits flash.

Cancelling
If you decide not to have a programmed operation carried out, you can cancel it as follows:
Press [TIMER START] [0] [GO] or [TIMER STOP] [0] [GO].







REMOTE CONTROL

The Beocord 9000 can be operated by remote control in conjunction with the Beomaster 8000 or 6000.

The terminal unit provides remote control of the following functions:

Start playback, [T1].

Start recording, [REC].

12 Stop playback or recording, [STOP].

Fast forward, [>>].

Rewind, [<<].

Return to last starting point, playback and recording, [RETURN].

Switch off, [●].

MICROPHONE

200 – 1000 ohm, low impedance mono or stereo microphones can be connected to the sockets on the front of the tape recorder.

Set the switch to MIC.

Jack plug

You can connect a mono microphone with jack plug directly to the MIC socket. The tape will only be recorded on the left-hand channel.

Both channels

For mono on both channels, insert connecting lead type 6271160 between the microphone jack and DIN socket MIC-AUX.

Stereo, with two mono microphones

For two microphones with jack plugs, use a double connecting lead type 6271159 plugged into DIN socket MIC-AUX.

Stereo microphone, DIN plug

Connect a stereo microphone with DIN plug directly to the DIN socket MIC-AUX. If the microphone is balance-wired, socket pins 3 and 5 should be connected to pin 2 in the plug.

AUX

The MIC-AUX socket can be used as an auxiliary input, e.g. for copying from another tape recorder.

Use standard cable type 0961014 to connect the two tape recorders and set the switch to AUX.

SETTING UP

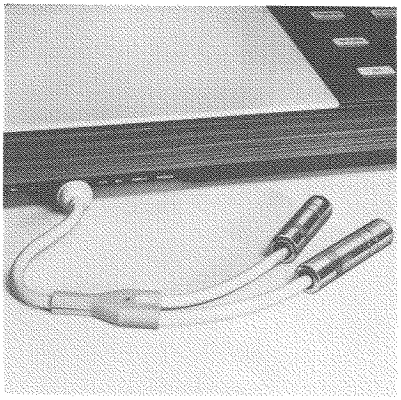
Place the Beocord 9000 on a horizontal surface – e.g. a table or shelf. The depth dimension, including leads and plugs, is 30 cm, the width is 53 cm.

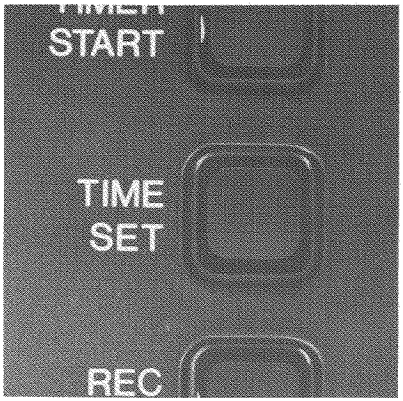
Avoid placing the Beocord 9000 near a radiator, where the temperature is considerably higher than room temperature in general.

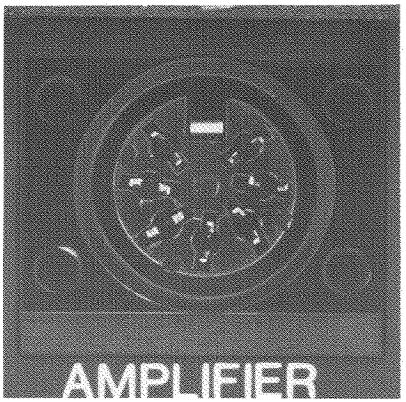
Mains

The Beocord 9000 type 4814 is designed for 220 volts, 50-60 Hz. changing to another voltage means replacing the mains transformer, in which case you should consult your dealer.

This Beocord fulfils the conditions stated in the EEC Directive 76/889 concerning radio frequency interference.





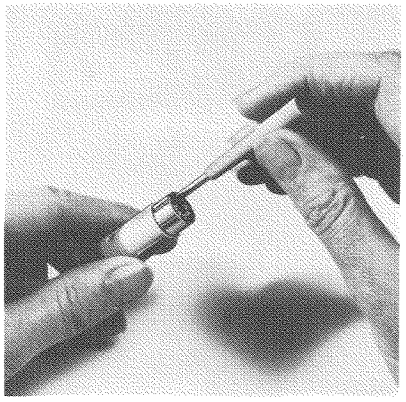


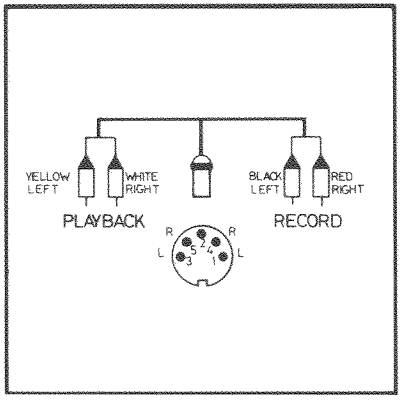
Power cut
The Beocord 9000 contains a long-life battery. This ensures that memory stores continue to function in the event of a power cut or if the plug is removed from the mains socket, regardless of how long the power supply is cut off.
Time calibration and REC OPEN maintained; only cancelled if the cassette is removed during the power cut.
Recording calibration: adjustment maintained for all tape categories.
TIMER: programming for playback or recording maintained. Programmes will only be carried out at the correct time if the clock is reset after a power cut.
The clock stops at the time of the power cut and must be reset with TIME SET when the power supply is restored.
The life of the battery is about 5 years. Your dealer can replace the battery.

Electrical information
Information concerning mains voltage, power consumption etc. is printed on the bottom of the tape recorder.

PRESETTING THE CLOCK
The Beocord 9000 has a built-in electronic clock for starting and stopping the tape recorder at programmed times. Normally the clock is not visible, but when you press TIME SET the time appears on the display, indicated by the lower dot in the middle flashing.
When you connect the Beocord 9000 to the mains and press TIME SET, the clock shows the time at which it was last disconnected. To set the clock to the right time:
e.g. Your watch says 13.30. Press TIME SET 1 3 3 1.
When your watch says 13.31, press GO.
In the event of a power cut you have to reset the clock.
To check the clock press TIME SET and conclude by pressing GO.

Connecting a Beomaster 8000/6000
Connect cable 6270222 to the TAPE 1 socket on the Beomaster 8000 or 6000, and to the AMPLIFIER socket on the back of the Beocord 9000.
Set the LEVEL switch on the base to LINE, and the switch on the front of the Beocord 9000 to AMPLIF.





Other radio receivers with 5-pin DIN plug
Again use cable 6270222, but first unscrew the two outer pins. Use a small screwdriver, turning anti-clockwise. Set the LINE switch on the base to DIN.

Phono plugs
You can also connect a radio or amplifier with phono plugs. Use cable 6270215 and set the LEVEL switch on the base to LINE.

Playback volume
If the change in volume is excessive when you switch the receiver from a radio broadcast to tape playback, you can adjust the Beocord 9000 volume up or down with the OUTPUT LEVEL L or R control on the base of the tape recorder.

MPX filter
The switch on the base should normally be at OUT. The IN position is intended for recording FM stereo broadcasts from receivers on which multiplex signals are not sufficiently damped. All Beomaster receivers are designed with effective MPX filters and consequently the switch can be placed permanently in the OUT position.

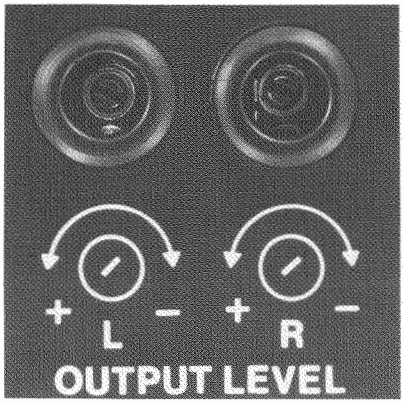
Timer relay box
The Beocord 9000's timer programming function also operates in conjunction with the Beomaster 8000 or 6000.
If you use the Beocord 9000 together with another radio receiver, a Timer Relay Box type 4002 is available, for switching the receiver on and off.

ADDITIONAL INFORMATION

Checking recording calibration
If you wish to see what automatic recording calibration is adjusted to, you can read out numerical values for the adjustments in the memory stores. Insert a tape and press [REC OPEN], then press [STOP] and [TAPE TYPE] simultaneously. When the display panel flashes 00:00, press [1] [2] [3] [4] and [5], one after the other. A numerical value will be displayed for each of the 5 buttons, in which the first two digits indicate the level of the adjustment and last digit is the button/adjustment number.

The adjustment levels are numbered 00 to 15, with 0.5 dB between each step.

1. Bias, left channel.
2. Bias, right channel.
3. Recording equalization, adjusted to the tape's treble sensitivity.
4. Sensitivity, medium frequency.
5. PPM adjustment, 0 dB corresponding to 2% distortion.



You can check the adjustments for each of the 4 tape categories: ferric, ferrochrom, chrome and metal.
Press [TAPE TYPE] until the indicator for the tape type you want lights, then press [STOP] and [TAPE TYPE] simultaneously.

A complete check might look like this:

Ferric	10.1	10.2	12.3	08.4	11.5
Ferrochrom	09,1	09.2	13.3	08.4	11.5
Chrome	11.1	10.2	13.3	11.4	10.5
Metal	08.1	07.2	13.3	09.4	11.5

If you have used the STORE function you get the STORE values for each tape type.
If on the other hand you have just used REC CAL for a tape, you get the individual REC CAL values for that tape. Once this calibration has been cancelled by removing the cassette and re-inserting it without REC CAL, the display again shows the STORE values.

Note. If you repeat recording calibration at a different point on the same tape, e.g. by swopping sides, it is not certain that a check will give the same values. This is due to the 0.5 dB accuracy of measurement, and the variations in the tape are inaudible.

MAINTENANCE

Tapeheads

To ensure accurate recording calibration and pure sound quality, the double tape head, the erase head and the capstan must be kept free of tape dust. Use one of the cleaning fluids on sale for this purpose, not methylated spirits which can damage rubber and plastic.

Surfaces

Remove any smears on metal surfaces with a soft, dry cloth.

Teak and rosewood

If wood surfaces seem dry and off-colour, you can apply a thin layer of teak or rosewood oil not more than twice a year.

Azimuth adjustment

True azimuth is when the tape head gaps are at right angles to the direction of tape motion. This ensures that recordings on the tape can be played back on other tape recorders.

The Beocord 9000 tape head has been adjusted to true azimuth in manufacturing and normally does not need to be re-adjusted.

If you have altered the azimuth in any way, e.g. by using pre-recorded tapes recorded with an incorrect azimuth angle, the tape head needs to be re-adjusted to true azimuth.

Insert the azimuth tape supplied and press [>].

Insert the non-magnetic screwdriver provided for this purpose in the hole shown in the illustration, and turn it slightly to the left or right until the PPM reading is greatest.

TECHNICAL DATA	
Beocord 9000	**Type No. 4814**
Compact Cassette	C46 – C60 – C90 – C120
Tape head	Double, sendust/ferrite
Noise reduction system	Dolby NR-B and NR-C
Tape switch	Aut. ferro/ferrochrom/chrom/metal
Wow and flutter DIN	<± 0.1%
Wow and flutter WRMS	<0.045%
Speed deviation	<± 1%
Fast forward and rewind C60	70 sec.
Frequency range metal	10-25,000 Hz ± 3 dB
Frequency range all types	20-20,000 Hz ± 1.5 dB
S/N ratio metal Dolby NR	B: >68 dB, C: >79 dB
S/N ratio ferrochrom Dolby NR	B: >68 dB, C: >79 dB
S/N ratio chrom Dolby NR	B: >70 dB, C: >80 dB
S/N ratio ferro Dolby NR	B: >64 dB, C: >74 dB
S/N ratio metal	>59 dB (Scotch Metafine C90)
S/N ratio ferrochrom	>59 dB (Sony FeCr C90)
S/N ratio chrom	>60 dB (BASF chrom II C90)
S/N ratio ferro	>56 dB (BASF LH I C60)
Driveability metal	>–3 dB/10 kHz, >–6 dB/15 kHz
Driveability other types	>–10 dB/10 kHz
Channel separation	>35 dB
Erasure	>75 dB
Erasure frequency	96 kHz
Radio input DIN-LINE	0.4 mV/4.7 kohms – 15 mV/22 kohms
Microphone input	0.15 mV/3 kohms
AUX input	40 mV/22 kohms
Radio output adjustable	1000 mV(500-2000 mV) 5.6 kohms
Headphones	Max. 10 V/56 ohms
Power supply	220 volts
Power frequency	50-60 Hz
Power consumption	Max. 50 watts
Dimensions W × H × D	53 × 13 × 30 cm
Weight	7.8 kg
Subject to change without notice	

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